

ABSTRACT

An interface engine provides animated views in a user interface. The interface engine directs the operation of a rendering environment to create an interface in a rendering area. The interface engine includes views, layouts, animators, and constraints. Views identify child views and resources for display in the rendering area. In response to events, such as user inputs, a view modifies itself by calling layouts, animators, and constraints. A layout manages the attributes of a view's child views, including child view position and size. An animator modifies the view's appearance over a specified period of time. A constraint imposes limits on view properties. In one implementation, an Internet site delivers an interface engine to a browser to supply content and a user interface. A presentation server compiles an interface engine description and specified resources into an interface engine. The presentation server delivers the interface engine to the browser, which executes the interface engine using a plug-in — eliminating excessive interface updates found in traditional HTML pages.